

## **Assessing Reservoir Operations Risks under Climate Change**

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**Abstract.** This presentation highlights recent research by Reclamation on exploring the use of risk analysis to study climate change effects on California's Central Valley Project (CVP) water and power operations, which are sensitive to regional changes in climate, hydrology, and sea level conditions. The effort builds from recent demonstrations of ensemble impacts analysis, and adds a new methodology for estimating relative "impact scenario" probability based on measured skill differences between the contributing climate models. Impacts results are integrated with scenario probability estimates (weights) to assess operations risk and permit statements on expected impacts at probability thresholds relevant to various risk attitudes. Reclamation collaborators include CA DWR, USGS/Scripps (Michael D. Dettinger), USACE Sacramento District, USACE ERDC-CRREL, and Santa Clara University (Edwin P. Maurer). Presentation will highlight methods and discuss results for several CVP operations metrics.